

CLAIMS

1. A flip-chip packaging method, wherein
in flip-chip packaging a semiconductor element on a circuit
board by using conductive resin, said element having protruding
electrodes formed thereon, the method comprising:
printing an electrode material containing photopolymerizable
materials on a semiconductor element package region on said circuit
board such that a film is formed with a prescribed thickness, and
forming concave circuit electrodes by baking said electrode material
film after performing exposure and development of said electrode
material film to allow said electrode material film to remain only on
prescribed electrode regions, thereby forming concave circuit
electrodes having edges warped in a direction of going apart from the
circuit board surface; and
bringing said protruding electrodes formed on said semiconductor
element into abutment with concave faces of said concave circuit
electrodes, and connecting said protruding electrodes and said circuit
electrodes with each other via the conductive resin.
2. The flip-chip packaging method according to claim 1, wherein
said electrode material film is formed to have a dry film thickness of
10 to 20 micrometers.
3. The flip-chip packaging method according to claim 1 or 2,
wherein said electrode material film remaining after development is
trapezoidal in cross section that is wider as it goes farther away
from said circuit board.
4. The flip-chip packaging method according to claim 1 or 2,
wherein said circuit electrode is arc-shaped in cross section.
5. A flip-chip package in which a semiconductor element having
protruding electrodes formed thereon is packaged on a circuit board by
using conductive resin, wherein
said circuit board includes concave circuit electrodes each
having edges warped in a direction of going apart from the circuit
board surface,
said semiconductor element is disposed such that ends of said
protruding electrodes thereof come in abutment with concave surfaces
of said concave circuit electrodes, and
said protruding electrodes and said circuit electrodes are
connected to each other via the conductive resin.
6. A circuit board for flip-chip packaging a semiconductor element
by using conductive resin, said element having protruding electrodes
formed thereon, comprising concave circuit electrodes each having
edges warped in a direction of going apart from the circuit board
surface.